

SEQUENCE LISTING

<110> Hekimi, Siegfried
Shibata , Yukimasa
Branicky , Robyn

<120> SCREENING ASSAYS FOR TARGETS AND DRUGS USEFUL IN TREATMENT AND
PREVENTION OF LIPID METABOLISM DISORDERS

<130> 302087-999008

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<150> 60/454,925
<151> 2003-03-14

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<170> PatentIn version 3.2

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taaaattatt ttaattttgc tctctctggg agaaatttgg aaaccagag atg ttc tca 178
Met Phe Ser
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Ser Arg Ile Trp Leu Leu Ala Val Thr Val Gly Val Cys Leu Ala
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Val Pro Asp Leu Asp Glu Ile Lys Lys Asn Leu Arg Lys His Gly Pro
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gac tac tat aaa aat cag ccg aaa atg aac gag aac act gtc cga cta 322
Asp Tyr Tyr Lys Asn Gln Pro Lys Met Asn Glu Asn Thr Val Arg Leu
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ctg aaa gtg gat tac tgg ttc cgt act gaa tct atg att tac gat gat 370
Leu Lys Val Asp Tyr Trp Phe Arg Thr Glu Ser Met Ile Tyr Asp Asp
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att gat aat aag gag aag gat cca tcg acc gtt att gct gga aat ttc 418
Ile Asp Asn Lys Glu Lys Asp Pro Ser Thr Val Ile Ala Gly Asn Phe
70 75 80
agc ttt gaa aca ctt cat cat gac gtg gag ggt ggc atg ttg gga cgg 466

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atc	tac	ata	gca	ttc	cgt	caa	ggg	ggg	aat	aat	gcg	gag	cat	atc	ctt	562
Ile	Tyr	Ile	Ala	Phe	Arg	Gln	Gly	Gly	Asn	Asn	Ala	Glu	His	Ile	Leu	
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aaa	gcg	tcc	gat	gag	agt	gac	gcc	acc	tgg	aat	ttc	ctg	tac	gca	att	610
Lys	Ala	Ser	Asp	Glu	Ser	Asp	Ala	Thr	Trp	Asn	Phe	Leu	Tyr	Ala	Ile	
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gtg	aat	aca	atc	tac	acg	cca	gca	gag	tac	gga	gaa	gga	gac	gag	caa	658
Val	Asn	Thr	Ile	Tyr	Thr	Pro	Ala	Glu	Tyr	Gly	Glu	Gly	Asp	Glu	Gln	
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Thr	Val	Asp	Thr	Ile	Tyr	Gly	Arg	Cys	Phe	Val	Asn	Phe	Gly	Arg	Pro	
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Glu	Asp	Lys	Arg	Phe	Arg	Arg	Ile	Ile	Glu	Lys	Cys	Asp	Leu	Gly	Tyr	
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Gly	Thr	Asn	Phe	Thr	Lys	Phe	Glu	Gly	Ile	Glu	Ser	Val	Gln	Tyr	Asp	
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Gln	Asp	Val	Trp	Tyr	Thr	Gln	Asn	Thr	Lys	Val	Asp	Ala	Asp	Ile	Ile	
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Met	Val	Asp	Ala	Ile	Glu	Met	Leu	Ala	Phe	Lys	Ser	Pro	Leu	His	Glu	
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Lys	Tyr	Gly	Phe	Thr	Leu	Glu	Ser	Arg	Thr	His	Val	Glu	Ile	Thr	Asn	
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cgt	aca	cgt	gtc	ttc	gtc	acc	agc	tac	tgt	aat	gat	acc	gta	cca	tcc	994
Arg	Thr	Arg	Val	Phe	Val	Thr	Ser	Tyr	Cys	Asn	Asp	Thr	Val	Pro	Ser	
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gcc	aaa	tgc	gcc	gag	cag	gcg	ttt	gga	gca	gtt	cgt	gtc	gga	gga	aaa	1042
Ala	Lys	Cys	Ala	Glu	Gln	Ala	Phe	Gly	Ala	Val	Arg	Val	Gly	Gly	Lys	
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ctt	tac	gag	cat	gtc	aag	att	gcg	cag	gaa	cag	tcg	aat	aag	tta	aca	1090
Leu	Tyr	Glu	His	Val	Lys	Ile	Ala	Gln	Glu	Gln	Ser	Asn	Lys	Leu	Thr	
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cac	att	tgt	gag	aaa	cat	tct	ttg	ctt	tat	agt	caa	att	gct	caa	gaa	1186
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gag aat gat cat gtt cta tct ctt atc gcc agt gcc ctc gga gga gtc Glu Asn Asp His Val Leu Ser Leu Ile Ala Ser Ala Leu Gly Gly Val 360 365 370			1282
ggt aca gca gaa tct atc acc act gct cgt gaa gtt ctt ctt acc gcg Gly Thr Ala Glu Ser Ile Thr Thr Ala Arg Glu Val Leu Leu Thr Ala 375 380 385			1330
tcc cct gat tat ctt gat gat tta ctt ttt gga att tca caa agc tcg Ser Pro Asp Tyr Leu Asp Asp Leu Leu Phe Gly Ile Ser Gln Ser Ser 390 395 400			1378
tct aac aat gag aaa tgg cac aaa caa ttg atg tac tgg ctc ggg tcc Ser Asn Asn Glu Lys Trp His Lys Gln Leu Met Tyr Trp Leu Gly Ser 405 410 415			1426
ctt gat aaa aaa tca gaa gaa tat tgg aag gtg gct aac aca att gca Leu Asp Lys Lys Ser Glu Glu Tyr Trp Lys Val Ala Asn Thr Ile Ala 420 425 430 435			1474
act gtg ctg aac aaa cga tgt gaa gca tcg aca agc agc tta aac tct Thr Val Leu Asn Lys Arg Cys Glu Ala Ser Thr Ser Ser Leu Asn Ser 440 445 450			1522
tgc aat aaa gga aag gaa acg att gtc aac aaa ttc atc act gac ctg Cys Asn Lys Gly Lys Glu Thr Ile Val Asn Lys Phe Ile Thr Asp Leu 455 460 465			1570
aca gct ggt gga gtt gaa gtc aga gtt ctc gag gtt ctg gag aat att Thr Ala Gly Gly Val Glu Val Arg Val Leu Glu Val Leu Glu Asn Ile 470 475 480			1618
cca att ttc gga tcc tac act ttt gct aag aaa ttc ata tgt gaa act Pro Ile Phe Gly Ser Tyr Thr Phe Ala Lys Lys Phe Ile Cys Glu Thr 485 490 495			1666
gag tcg gag gat gtt cag aaa gcc gca ctc aac gtt att ctg gct gcg Glu Ser Glu Asp Val Gln Lys Ala Ala Leu Asn Val Ile Leu Ala Ala 500 505 510 515			1714
agc aag aat ttg tat gaa aca caa ctc acc cac aag ctc atc aaa ctc Ser Lys Asn Leu Tyr Glu Thr Gln Leu Thr His Lys Leu Ile Lys Leu 520 525 530			1762
ttc cgc aac aca tgc agc cag gaa act cca act tct cat tct caa ctc Phe Arg Asn Thr Cys Ser Gln Glu Thr Pro Thr Ser His Ser Gln Leu 535 540 545			1810
gcc atc gac att ctc ctc aaa tgt gtc cct gat cat caa aac gtg gcc Ala Ile Asp Ile Leu Leu Lys Cys Val Pro Asp His Gln Asn Val Ala 550 555 560			1858
acc ttg atc ctg cga act gag act ctt aac ccc gat gat cag gaa aaa Thr Leu Ile Leu Arg Thr Glu Thr Leu Asn Pro Asp Asp Gln Glu Lys 565 570 575			1906

tgg cat tac ctg tac aag gct atc gag gca agc gga aac aag gat gaa	1954
Trp His Tyr Leu Tyr Lys Ala Ile Glu Ala Ser Gly Asn Lys Asp Glu	
580 585 590 595	
ctg aag gcc gaa ttt tgg tgc cga atg cgg aag ttt aag gtt ttc cga	2002
Leu Lys Ala Glu Phe Trp Ser Arg Met Arg Lys Phe Lys Val Phe Arg	
600 605 610	
cca aac ttc ttg cac aga gca ctt cag gcg gat tct cat gtt cac tgg	2050
Pro Asn Phe Leu His Arg Ala Leu Gln Ala Asp Ser His Val His Trp	
615 620 625	
caa gag att gca gat gct tca aac ttc caa ctg ttc tcc act gcg aac	2098
Gln Glu Ile Ala Asp Ala Ser Asn Phe Gln Leu Phe Ser Thr Ala Asn	
630 635 640	
aca gaa ttc ttg caa aaa tcc ttt aag aga tcc atc ttt gag cta tcg	2146
Thr Glu Phe Leu Gln Lys Ser Phe Lys Arg Ser Ile Phe Glu Leu Ser	
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Met Lys Lys Gly Arg Lys Glu His Asn Leu Phe Ser Leu Ser Ile Asp	
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act gag cac ctt gag caa ttt gtg act gga tca gct tct tca aga tcc	2242
Thr Glu His Leu Glu Gln Phe Val Thr Gly Ser Ala Ser Ser Arg Ser	
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Gly Ala Pro Gln Gly Ser Val Arg Ile Gly Val Ala Gly His Lys Leu	
695 700 705	
cca act cac cac atc ttc aag gga agt act gac ctg ctt tcc act gtc	2338
Pro Thr His His Ile Phe Lys Gly Ser Thr Asp Leu Leu Ser Thr Val	
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Trp Glu Ala Asp Gly Arg Thr His Lys Ala Phe Glu Gly His Val Pro	
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Val Arg Asp Val Arg Leu Ser Val Pro Leu Leu Ser Gly Leu Thr Leu	
740 745 750 755	
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Asp Val Asp Ser Val Gly Ala Ile Ser Met Arg Val Leu Ala Ser Ala	
760 765 770	
gaa gtt tcc ctt tgg aat cag aga tcg aat gca aag gca gag gca tat	2530
Glu Val Ser Leu Trp Asn Gln Arg Ser Asn Ala Lys Ala Glu Ala Tyr	
775 780 785	
aca tcc gga tcc tta cac cta acg gct tcc ctc tac cat cac tca gaa	2578
Thr Ser Gly Ser Leu His Leu Thr Ala Ser Leu Tyr His His Ser Glu	
790 795 800	
cca gtc cgc cac gtg gaa tcc aca atc tcg gcg ctc tcc acc ttc acc	2626
Pro Val Arg His Val Glu Ser Thr Ile Ser Ala Leu Ser Thr Phe Thr	
805 810 815	

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 Thr Asp Thr Arg Ala Ile Phe Glu Thr Leu Pro Tyr Asp Phe Cys Leu
 820 825 830 835

aga aca tct aat agc aat gtt gat atc aat cag aaa aca gtt gta cag 2722
 Arg Thr Ser Asn Ser Asn Val Asp Ile Asn Gln Lys Thr Val Val Gln
 840 845 850

gat caa att gga aag cat aaa aag aag acg ctt aat cga aaa cga gta 2770
 Asp Gln Ile Gly Lys His Lys Lys Lys Thr Leu Asn Arg Lys Arg Val
 855 860 865

cat cct gga gtt aca tac agg ttg gat gac tcg acg att cgg cag tgt 2818
 His Pro Gly Val Thr Tyr Arg Leu Asp Asp Ser Thr Ile Arg Gln Cys
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aat agt tat ttg gag cag ttt aga ttg tag ttgtttgttt tttttatttaa 2868
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His Gly Pro Asp Tyr Tyr Lys Asn Gln Pro Lys Met Asn Glu Asn Thr
 35 40 45

Val Arg Leu Leu Lys Val Asp Tyr Trp Phe Arg Thr Glu Ser Met Ile
 50 55 60

Tyr Asp Asp Ile Asp Asn Lys Glu Lys Asp Pro Ser Thr Val Ile Ala
 65 70 75 80

Gly Asn Phe Ser Phe Glu Thr Leu His His Asp Val Glu Gly Gly Met
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Leu Gly Arg Phe Thr Leu Thr Gln Cys Asn Thr Asp Asn Cys Gly Asn
 100 105 110

Pro Ser Pro Ile Tyr Ile Ala Phe Arg Gln Gly Gly Asn Asn Ala Glu
 115 120 125

His	Ile	Leu	Lys	Ala	Ser	Asp	Glu	Ser	Asp	Ala	Thr	Trp	Asn	Phe	Leu	130	135	140	
Tyr	Ala	Ile	Val	Asn	Thr	Ile	Tyr	Thr	Pro	Ala	Glu	Tyr	Gly	Glu	Gly	145	150	155	160
Asp	Glu	Gln	Thr	Val	Asp	Thr	Ile	Tyr	Gly	Arg	Cys	Phe	Val	Asn	Phe	165	170	175	
Gly	Arg	Pro	Glu	Asp	Lys	Arg	Phe	Arg	Arg	Ile	Ile	Glu	Lys	Cys	Asp	180	185	190	
Leu	Gly	Tyr	Gly	Thr	Asn	Phe	Thr	Lys	Phe	Glu	Gly	Ile	Glu	Ser	Val	195	200	205	
Gln	Tyr	Asp	Gln	Asp	Val	Trp	Tyr	Thr	Gln	Asn	Thr	Lys	Val	Asp	Ala	210	215	220	
Asp	Ile	Ile	Met	Val	Asp	Ala	Ile	Glu	Met	Leu	Ala	Phe	Lys	Ser	Pro	225	230	235	240
Leu	His	Glu	Lys	Tyr	Gly	Phe	Thr	Leu	Glu	Ser	Arg	Thr	His	Val	Glu	245	250	255	
Ile	Thr	Asn	Arg	Thr	Arg	Val	Phe	Val	Thr	Ser	Tyr	Cys	Asn	Asp	Thr	260	265	270	
Val	Pro	Ser	Ala	Lys	Cys	Ala	Glu	Gln	Ala	Phe	Gly	Ala	Val	Arg	Val	275	280	285	
Gly	Gly	Lys	Leu	Tyr	Glu	His	Val	Lys	Ile	Ala	Gln	Glu	Gln	Ser	Asn	290	295	300	
Lys	Leu	Thr	Lys	Leu	Ile	Gly	Thr	Tyr	Arg	Arg	His	Leu	Gln	Asp	Met	305	310	315	320
Gly	Asp	Ser	His	Ile	Cys	Glu	Lys	His	Ser	Leu	Leu	Tyr	Ser	Gln	Ile	325	330	335	
Ala	Gln	Glu	Ala	Arg	Leu	Ala	Lys	Arg	Gln	Asp	Trp	Glu	Ala	Ala	Ile	340	345	350	
Gln	Tyr	Pro	Glu	Asn	Asp	His	Val	Leu	Ser	Leu	Ile	Ala	Ser	Ala	Leu	355	360	365	

Gly Gly Val Gly Thr Ala Glu Ser Ile Thr Thr Ala Arg Glu Val Leu
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Leu Thr Ala Ser Pro Asp Tyr Leu Asp Asp Leu Leu Phe Gly Ile Ser
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Gln Ser Ser Ser Asn Asn Glu Lys Trp His Lys Gln Leu Met Tyr Trp
 405 410 415

Leu Gly Ser Leu Asp Lys Lys Ser Glu Glu Tyr Trp Lys Val Ala Asn
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Thr Ile Ala Thr Val Leu Asn Lys Arg Cys Glu Ala Ser Thr Ser Ser
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Leu Asn Ser Cys Asn Lys Gly Lys Glu Thr Ile Val Asn Lys Phe Ile
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Thr Asp Leu Thr Ala Gly Gly Val Glu Val Arg Val Leu Glu Val Leu
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Glu Asn Ile Pro Ile Phe Gly Ser Tyr Thr Phe Ala Lys Lys Phe Ile
 485 490 495

Cys Glu Thr Glu Ser Glu Asp Val Gln Lys Ala Ala Leu Asn Val Ile
 500 505 510

Leu Ala Ala Ser Lys Asn Leu Tyr Glu Thr Gln Leu Thr His Lys Leu
 515 520 525

Ile Lys Leu Phe Arg Asn Thr Cys Ser Gln Glu Thr Pro Thr Ser His
 530 535 540

Ser Gln Leu Ala Ile Asp Ile Leu Leu Lys Cys Val Pro Asp His Gln
 545 550 555 560

Asn Val Ala Thr Leu Ile Leu Arg Thr Glu Thr Leu Asn Pro Asp Asp
 565 570 575

Gln Glu Lys Trp His Tyr Leu Tyr Lys Ala Ile Glu Ala Ser Gly Asn
 580 585 590

Lys Asp Glu Leu Lys Ala Glu Phe Trp Ser Arg Met Arg Lys Phe Lys
 595 600 605

Val Phe Arg Pro Asn Phe Leu His Arg Ala Leu Gln Ala Asp Ser His
610 615 620

Val His Trp Gln Glu Ile Ala Asp Ala Ser Asn Phe Gln Leu Phe Ser
625 630 635 640

Thr Ala Asn Thr Glu Phe Leu Gln Lys Ser Phe Lys Arg Ser Ile Phe
645 650 655

Glu Leu Ser Met Lys Lys Gly Arg Lys Glu His Asn Leu Phe Ser Leu
660 665 670

Ser Ile Asp Thr Glu His Leu Glu Gln Phe Val Thr Gly Ser Ala Ser
675 680 685

Ser Arg Ser Gly Ala Pro Gln Gly Ser Val Arg Ile Gly Val Ala Gly
690 695 700

His Lys Leu Pro Thr His His Ile Phe Lys Gly Ser Thr Asp Leu Leu
705 710 715 720

Ser Thr Val Trp Glu Ala Asp Gly Arg Thr His Lys Ala Phe Glu Gly
725 730 735

His Val Pro Val Arg Asp Val Arg Leu Ser Val Pro Leu Leu Ser Gly
740 745 750

Leu Thr Leu Asp Val Asp Ser Val Gly Ala Ile Ser Met Arg Val Leu
755 760 765

Ala Ser Ala Glu Val Ser Leu Trp Asn Gln Arg Ser Asn Ala Lys Ala
770 775 780

Glu Ala Tyr Thr Ser Gly Ser Leu His Leu Thr Ala Ser Leu Tyr His
785 790 795 800

His Ser Glu Pro Val Arg His Val Glu Ser Thr Ile Ser Ala Leu Ser
805 810 815

Thr Phe Thr Thr Asp Thr Arg Ala Ile Phe Glu Thr Leu Pro Tyr Asp
820 825 830

Phe Cys Leu Arg Thr Ser Asn Ser Asn Val Asp Ile Asn Gln Lys Thr
835 840 845

Val Val Gln Asp Gln Ile Gly Lys His Lys Lys Lys Thr Leu Asn Arg
 850 855 860

Lys Arg Val His Pro Gly Val Thr Tyr Arg Leu Asp Asp Ser Thr Ile
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Arg Gln Cys Asn Ser Tyr Leu Glu Gln Phe Arg Leu
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Leu Leu Lys Val Tyr Trp Phe Arg Thr Glu Ser Met Ile Tyr Asp Asp
 35 40 45

Ile Asp Asn Lys Glu Lys Asp Pro Ser Thr Val Ile Ala Gly Asn Phe
 50 55 60

Ser Phe Glu Thr Leu His His Asp Val Glu Gly Gly Leu Gly Arg Phe
 65 70 75 80

Thr Leu Thr Gln Cys Asn Thr Asp Asn Cys Gly Asn Pro Ser Pro Ile
 85 90 95

Tyr Ile Ala Phe Arg Gln Gly Gly Asn Asn Ala Glu His Ile Leu Lys
 100 105 110

Ala Ser Asp Glu Ser Asp Ala Thr Trp Asn Phe Leu Tyr Ala Ile Val
 115 120 125

Asn Thr Ile Tyr Thr Pro Ala Glu Tyr Gly Glu Gly Asp Glu Gln Thr
 130 135 140

Val Asp Thr Ile Tyr Gly Arg Cys Phe Val Asn Phe Gly Arg Pro Glu
 145 150 155 160

Asp Lys Arg Phe Arg Arg Ile Ile Glu Lys Cys Asp Leu Gly Tyr Gly
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Lys Ala Ala Leu Asn Val Ile Leu Ala Ala Ser Lys Asn Leu Tyr Glu
 420 425 430

Thr Gln Leu Thr His Lys Leu Ile Lys Leu Phe Arg Asn Thr Cys Ser
 435 440 445

Gln Glu Thr Pro Thr Ser His Ser Gln Leu Ala Ile Asp Ile Leu Leu
 450 455 460

Lys Cys Val Pro Asp His Gln Asn Val Ala Thr Leu Ile Leu Arg Thr
 465 470 475 480

Glu Thr Leu Asn Pro Asp Gln Glu Lys Trp His Tyr Leu Tyr Lys Ala
 485 490 495

Ile Glu Ala Ser Gly Asn Lys Asp Glu Leu Lys Ala Glu Phe Trp Ser
 500 505 510

Arg Met Arg Lys Phe Lys Val Phe Arg Pro Asn Phe Leu His Arg Ala
 515 520 525

Leu Gln Ala Asp Ser His Val His Trp Gln Glu Ile Ala Asp Ala Ser
 530 535 540

Asn Phe Gln Leu Phe Ser Thr Ala Asn Thr Glu Phe Leu Gln Lys Ser
 545 550 555 560

Phe Lys Arg Ser Ile Phe Glu Leu Ser Met Lys Lys Gly Arg Lys Glu
 565 570 575

His Asn Asn Leu Phe Ser Leu Ser Ile Thr Glu His Leu Glu Gln Phe
 580 585 590

Val Thr Gly Ser Ala Ser Ser Arg Ser Gly Ala Pro Gln Gly Val Arg
 595 600 605

Ile Gly Val Ala Gly His Lys Leu Pro Thr His His Ile Phe Lys Lys
 610 615 620

Gly Ser Thr Asp Leu Leu Ser Thr Val Trp Glu Ala Asp Gly Arg Thr
 625 630 635 640

His Lys Ala Phe Glu Gly His Val Pro Val Arg Asp Val Arg Leu Ser
 645 650 655

Val Pro Leu Leu Ser Gly Leu Thr Leu Asp Val Asp Ser Val Gly Ala
660 665 670

Ile Ser Met Arg Val Leu Ala Ser Glu Ala Val Ser Leu Trp Asn Gln
675 680 685

Arg Ser Asn Ala Lys Ala Glu Ala Tyr Thr Ser Gly Ser Leu His Leu
690 695 700

Thr Ala Ser Leu Tyr His His Ser Glu Pro Val Arg His Val Glu Ser
705 710 715 720

Thr Ile Ser Ala Leu Ser Thr Phe Thr Asp Thr Arg Ala Ile Phe Glu
725 730 735

Thr Leu Pro Tyr Asp Phe Cys Leu Arg Thr Ser Asn Ser Asn Val Asp
740 745 750

Ile Asn Gln Lys Thr Val Val Gln Asp Gln Ile Gly Lys His Lys Lys
755 760 765

Lys Thr Leu Asn Arg Lys Arg Val His Pro Gly Val Thr Tyr Arg Leu
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Asp Asp Ser Thr Ile Arg Gln Cys Asn Ser Tyr Leu Glu Gln Phe Arg
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Leu

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Pro Glu Gly Asn Val Gly Phe Arg Ile Ser Ser Asp Val Asp Ile Asn
35 40 45

Leu Ala Trp Arg Asn Pro Asn Pro Glu Ile Gln Asp Glu Gln Leu Leu
50 55 60

Gln Val Gln Ile Ser Asn Ile Gln Val Glu Ser Ala Gly Lys His Ser
 65 70 75 80

Arg Lys Asn Asn Ile Phe His Gly Ser Ser Ala Glu Ser Ile Leu Gly
 85 90 95

Lys Val Arg Leu Glu Ala Leu Gln Arg Pro Phe Leu Val Leu Trp Lys
 100 105 110

Met Gly Lys Ile Arg Ser Leu Tyr Ala Gln Lys Ala Glu Pro Ala Thr
 115 120 125

Val Lys Asn Leu Lys Arg Gly Val Ala Ser Met Leu Met Met Gln Leu
 130 135 140

Lys Ser Gly Lys Met Ser Glu Ala Asp Ala Ser Gly Lys Cys Leu Val
 145 150 155 160

Glu Tyr Lys Val Asn Lys His Gln Gln Val Ile Arg Thr Lys His Leu
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Glu Thr Cys Lys Ser Gln Glu Thr Gly Phe Thr Thr His Ser Pro Val
 180 185 190

Leu Gly Ile Ser Gly Lys Cys Ala Ala Glu Thr Val Ile Thr Leu Glu
 195 200 205

Asn Gly Ile Ile Lys Ser Ala Asp Ala Lys Glu Thr His Val Leu Ser
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Ile Asn Ala Arg His Lys Ala Ala Thr Lys Val Leu Ser Arg Gln Ser
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Leu Thr Leu Lys Ala Ile Glu Ala Gly Pro Ala Glu Val Ala Gly Lys
 245 250 255

Asp Val Ala Gly Val Val Lys Ala Leu Asp Asp Lys Phe Leu Ser Val
 260 265 270

Gly Val Ile Val Glu Lys Thr Lys Pro Lys Cys Lys Gly Cys Pro Asn
 275 280 285

Leu Met Glu Thr Trp Lys Ala Val Arg Gln Leu Glu Pro Asn Ser Leu
 290 295 300

Ser Lys Ala Glu Ala Pro Arg Ser Phe Leu Thr Leu Val His Ser Leu
 305 310 315 320

Arg Lys Ser Ser Lys Ser Glu Ile Leu Thr Val Leu Gln Asn Cys Ser
 325 330 335

Lys Thr Ala Leu Pro Gln Leu Val Asp Ala Val Thr Ser Ala Gln Thr
 340 345 350

Pro Ser Ser Leu Ser Ala Ala Ile Leu Glu Phe Leu Phe Ser Lys Lys
 355 360 365

Asp Gly Leu Ile Leu Gln Glu Arg Leu Tyr Ala Cys Gly Phe Ala Ser
 370 375 380

His Pro Thr Glu Ser Met Leu Gln Ser Leu Leu Glu Val Ser Gln Gly
 385 390 395 400

Lys Ile Gly Ser Thr Glu Ile Lys Glu Ser Val Val Ile Ile Met Gly
 405 410 415

Ala Leu Leu Arg Lys Leu Cys Leu Lys Gly Ala Cys Asp Leu Pro Val
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Val Leu Lys Val Lys Glu Leu Leu Leu Ala Gly Pro Asp Ser Thr Gln
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Glu Glu Ser Glu Val Gln Met Tyr Leu Leu Ala Leu Lys Asn Ala Leu
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Leu Pro Glu Gly Ile Pro Val Leu Thr Lys Tyr Ala Glu Ser Glu Val
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Gly Ala Tyr Ser Thr Ile Leu Ala Ile Thr Ala Ala Leu Gln Arg Tyr
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Asp Pro Ala Leu Ile Thr Ala Glu Val Lys Lys Ala Leu Asn Arg Ile
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Tyr His Gln Asn Gln Arg Ile Tyr Glu Lys Asn Val Arg Ala Ala Ala
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Ala Asp Val Ile Met Ser Ser Asn Pro Ser Tyr Met Glu Val Lys Asn
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Leu Ser Lys Ile Gln Asp Asp Val Leu Arg Phe Gln Met Pro Ala Tyr
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Lys Leu Val Arg Gln Val Met Lys Asp Met Ile Ser His Asn Tyr Asp
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Arg Phe Ser Lys Thr Gly Ser Ser Ser Ala Tyr Ser Gly Phe Met Ala
 595 600 605

Glu Thr Val Val Thr Cys Thr Tyr Asn Leu Asp Ile Leu Tyr Ser Gly
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Ser Gly Val Leu Arg Arg Ser Asn Met Asn Ile Tyr Gly Gln Ser Asn
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Asn Ala Leu Leu His Gly Leu Gln Val Thr Ile Glu Ala Gln Gly Leu
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Glu Ser Pro Ile Ala Ala Thr Pro Asp Glu Gly Glu Glu Glu Leu Glu
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Ser Phe Ala Gly Met Ser Ala Leu Leu Phe Asp Val Gln Leu Arg Pro
 675 680 685

Val Thr Phe Phe Lys Gly Tyr Ser Asp Leu Leu Met Ser Lys Met Phe
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Ser Thr Ser Gly Asp Pro Ile Asn Val Val Lys Gly Leu Ile Leu Leu
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Thr Asp His Ser Gln Val Ile Pro Leu Gln Ser Gly Leu Arg Ala Ser
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Ala Glu Phe Gln Ala Gly Leu Ser Ile Asp Ile Ser Gly Gly Met Glu
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Ala Gly Val Glu Val Gly Phe Glu Thr Glu Ala Thr Leu Asp Phe Ile

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Pro Gln Asp Ser Val Gly Lys Ile Ser Ser Asp Val Asp Val Val Leu						
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Leu Trp Arg Pro Asp Gly Asp Asp Asp Gln Val Ile Gln Val Thr Ile						
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Thr Ala Val Asn Val Glu Asn Ala Gly Gln Gln Arg Gly Glu Lys Ser						
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Ile Phe Gln Gly Lys Ser Thr Pro Lys Ile Ile Gly Lys Asp Asn Leu						
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Glu Ala Leu Gln Arg Pro Met Leu Leu His Leu Leu His Leu Val Arg						
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Gly Val Lys Glu Phe Tyr Ser Tyr Glu Asn Glu Pro Val Gly Ile Glu						
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Gln	Ala	Gln	Gln	Asp	Lys	Val	Val	Lys	Ile	Lys	Ala	Leu	Asp	Thr	Cys	165	170	175
Lys	Ile	Glu	Arg	Ser	Gly	Phe	Thr	Thr	Ala	Asn	Gln	Val	Leu	Gly	Val	180	185	190
Ser	Ser	Lys	Ala	Thr	Ser	Val	Thr	Thr	Tyr	Lys	Ile	Glu	Asp	Ser	Phe	195	200	205
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His	His	Trp	Lys	Ser	Ile	Arg	Lys	Asn	Leu	Glu	Pro	Asn	Leu	Ser	Lys	290	295	300
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Leu	Pro	Gln	Leu	Val	Asp	Ala	Val	Thr	Ser	Ala	Gln	Thr	Pro	Asp	Ser	340	345	350
Leu	Ala	Ile	Leu	Asp	Phe	Leu	Asp	Phe	Lys	Ser	Asp	Ser	Ser	Ile	Ile	355	360	365

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Glu Glu Leu Leu Arg Ala Leu Leu Ser Lys Phe Lys Gly Ser Phe Ala
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Ser Asn Asp Ile Arg Glu Ser Val Met Ile Thr Ile Gly Ala Leu Val
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Arg Lys Leu Cys Gln Asn Glu Gly Lys Leu Lys Ala Val Val Glu Ala
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Lys Lys Leu Ile Leu Gly Gly Leu Glu Lys Pro Glu Lys Lys Glu Asp
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Thr Thr Met Tyr Leu Leu Ala Leu Lys Asn Ala Leu Leu Pro Glu Gly
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Ile Pro Leu Leu Leu Lys Tyr Ala Glu Ala Gly Glu Gly Pro Val Ser
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His Leu Ala Thr Thr Val Leu Gln Arg Tyr Asp Val Ser Phe Ile Thr
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Asp Glu Val Lys Lys Thr Leu Asn Arg Ile Tyr His Gln Asn Arg Lys
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Val His Glu Lys Thr Val Arg Thr Thr Ala Ala Ala Val Ile Leu Lys
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Asn Pro Ser Tyr Met Asp Lys Asn Ile Leu Leu Ser Ile Gly Glu Leu
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Pro Lys Glu Met Asn Lys Lys Tyr Met Leu Thr Val Val Gln Asp Ile
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Leu His Phe Glu Met Pro Ala Ser Lys Met Ile Arg Arg Val Leu Lys
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Glu Asn Leu Asp Ser Tyr Ala Gly Met Ser Ala Ile Leu Phe Asp Val
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Gln Leu Arg Pro Val Thr Phe Phe Asn Gly Tyr Ser Asp Leu Met Ser
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Lys Met Leu Ser Ala Ser Gly Asp Pro Val Ser Val Val Lys Gly Leu
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Lys Ala Asn Met Glu Ile Gln Gly Gly Leu Ala Ile Asp Ile Ser Gly
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Ser Met Glu Phe Ser Leu Trp Tyr Arg Glu Ser Lys Thr Arg Val Lys
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Asn Arg Val Ala Val Val Ile Thr Ser Asp Val Thr Val Asp Ala Ser
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Phe Val Lys Ala Gly Leu Glu Ser Arg Ala Glu Thr Glu Ala Gly Leu
690 695 700

Glu Phe Ile Ser Thr Val Gln Phe Ser Gln Tyr Pro Phe Leu Val Cys
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Met Gln Met Asp Asp Glu Ala Pro Phe Arg Gln Phe Glu Lys Tyr Glu
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Arg Leu Ser Gly Arg Gly Tyr Val Ser Arg Arg Arg Lys Glu Ser Leu
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Val Ala Gly Cys Glu Leu Pro Leu His Gln Gln Asn Ser Glu Met Cys
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Phe
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Gly Gln Val Phe Ser His Cys Gly Cys Pro Ser Leu Ser Glu Leu Trp
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Arg Ser Arg Lys Tyr Leu Gln Pro Asp Asn Leu Ser Lys Ala Glu Ala
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Val Arg Asn Phe Leu Ala Phe Ile Gln His Leu Arg Thr Ala Lys Lys
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Glu Glu Ile Leu Gln Ile Leu Lys Met Glu Asn Lys Glu Val Leu Pro
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Ile Leu Asp Phe Lys Ser Asp Ser Ser Ile Ile Leu Gln Glu Arg Phe
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Leu Tyr Ala Cys Gly Phe Ala Ser His Pro Asn Glu Glu Leu Leu Arg
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Ala Leu Ile Ser Lys Phe Lys Gly Ser Ile Gly Ser Ser Asp Ile Arg
 385 390 395 400

Glu Thr Val Met Ile Ile Thr Gly Thr Leu Val Arg Lys Leu Cys Gln
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Asn Glu Gly Cys Lys Leu Lys Ala Val Val Glu Ala Lys Lys Leu Ile
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Leu Gly Gly Leu Glu Lys Ala Glu Lys Lys Glu Asp Thr Arg Met Tyr
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Leu Leu Ala Leu Lys Asn Ala Leu Leu Pro Glu Gly Ile Pro Ser Leu
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Leu Lys Tyr Ala Glu Ala Gly Glu Gly Pro Ile Ser His Leu Ala Thr
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Thr Ala Leu Gln Arg Tyr Asp Leu Pro Phe Ile Thr Asp Glu Val Lys
 485 490 495

Lys Thr Leu Asn Arg Ile Tyr His Gln Asn Arg Lys Val His Glu Lys
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Asn	Lys	Tyr	Met	Ala	Ile	Val	Gln	Asp	Ile	Leu	Arg	Leu	Glu	Met	Pro	545	550	555
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Ile	Glu	Val	Gln	Gly	Gly	Leu	Ala	Ile	Asp	Ile	Ser	Gly	Ala	Met	Glu	725	730	735
Phe	Ser	Leu	Trp	Tyr	Arg	Glu	Ser	Lys	Thr	Arg	Val	Lys	Asn	Arg	Val	740	745	750

Thr Val Val Ile Thr Thr Ile Thr Val Asp Ser Ser Phe Val Lys Ala
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Gly Leu Glu Thr Ser Thr Glu Thr Glu Ala Gly Leu Glu Phe Ile Ser
770 775 780

Thr Val Gln Phe Ser Gln Tyr Pro Phe Leu Val Cys Met Gln Met Asp
785 790 795 800

Lys Asp Glu Ala Pro Phe Arg Gln Phe Glu Lys Lys Tyr Glu Arg Leu
805 810 815

Ser Thr Gly Arg Gly Tyr Val Ser Gln Lys Arg Lys Glu Ser Val Leu
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Cys	Glu	Pro	Pro	Asn	Asn	Lys	Leu	Asp	Lys	Phe	Asn	Gly	Lys	Leu	Ile		
	210					215					220						
Trp	Asn	Asn	His	Glu	Tyr	Gly	Val	Asn	Asn	Asp	Asn	Ile	Leu	Leu	Arg		
225					230					235					240		
Gly	Cys	Ile	Leu	Lys	Asn	Thr	Arg	Trp	Cys	Tyr	Gly	Val	Val	Val	Phe		
				245					250					255			
Ala	Gly	Lys	Asp	Thr	Lys	Leu	Met	Met	Asn	Ser	Gly	Lys	Thr	Lys	Phe		
			260					265					270				
Lys	Arg	Thr	Ser	Leu	Asp	Arg	Phe	Leu	Asn	Ile	Leu	Ile	Val	Gly	Ile		
		275					280					285					

Val	Leu	Phe	Leu	Ile	Ala	Met	Cys	Leu	Ile	Cys	Thr	Ile	Leu	Cys	Ala	290	295	300	
Val	Trp	Glu	Tyr	Gln	Thr	Gly	Arg	Tyr	Phe	Thr	Ile	Tyr	Leu	Pro	Trp	305	310	315	320
Asp	Asp	Val	Val	Pro	Ser	Pro	Glu	Gln	Arg	Gly	Gly	Arg	Gln	Ile	Ala	325	330	335	
Leu	Ile	Ala	Phe	Leu	Gln	Phe	Phe	Ser	Tyr	Ile	Ile	Leu	Leu	Asn	Thr	340	345	350	
Val	Val	Pro	Ile	Ser	Leu	Tyr	Val	Ser	Val	Glu	Ile	Ile	Arg	Phe	Ile	355	360	365	
His	Ser	Leu	Trp	Ile	Asn	Tyr	Asp	Thr	Gln	Met	Tyr	Tyr	Glu	Asn	Gly	370	375	380	
Glu	Lys	Ser	Val	Pro	Ala	Lys	Ala	His	Thr	Thr	Thr	Leu	Asn	Glu	Glu	385	390	395	400
Leu	Gly	Gln	Val	Gln	Tyr	Val	Phe	Ser	Asp	Lys	Thr	Gly	Thr	Leu	Thr	405	410	415	
Arg	Asn	Ile	Met	Thr	Phe	Asn	Lys	Cys	Thr	Ile	Asn	Gly	Ile	Ser	Tyr	420	425	430	
Gly	Asp	Ile	Tyr	Asp	His	Lys	Gly	Glu	Val	Ile	Glu	Thr	Asn	Asp	Lys	435	440	445	
Thr	Lys	Ser	Leu	Asp	Phe	Ser	Trp	Asn	Ser	Ala	Ser	Glu	Pro	Thr	Phe	450	455	460	
Lys	Phe	Phe	Asp	Lys	Asn	Leu	Val	Asp	Ala	Thr	Lys	Arg	Gln	Val	Pro	465	470	475	480
Glu	Ile	Asp	Gln	Phe	Trp	Arg	Leu	Leu	Ala	Leu	Cys	His	Thr	Val	Met	485	490	495	
Pro	Glu	Arg	Asp	Lys	Gly	Gln	Leu	Val	Tyr	Gln	Ala	Gln	Ser	Pro	Asp	500	505	510	
Glu	His	Ala	Leu	Thr	Ser	Ala	Ala	Arg	Asn	Phe	Gly	Tyr	Val	Phe	Arg	515	520	525	

Ala	Arg	Thr	Pro	Gln	Ser	Ile	Thr	Ile	Glu	Val	Met	Gly	Asn	Glu	Glu	530	535	540	
Thr	His	Glu	Leu	Leu	Ala	Ile	Leu	Asp	Phe	Asn	Asn	Asp	Arg	Lys	Arg	545	550	555	560
Met	Ser	Val	Ile	Val	Lys	Gly	Pro	Asp	Gly	Lys	Ile	Arg	Leu	Tyr	Cys	565	570	575	
Lys	Gly	Ala	Asp	Met	Met	Ile	Met	Gln	Arg	Ile	His	Pro	Ser	Thr	Ser	580	585	590	
Gln	Ile	Met	Arg	Thr	Ser	Thr	Asn	Thr	His	Leu	Ala	Asp	Phe	Ala	Asn	595	600	605	
Ile	Gly	Leu	Arg	Thr	Leu	Cys	Leu	Gly	Tyr	Lys	Asp	Leu	Asp	Pro	Ala	610	615	620	
Tyr	Phe	Ser	Asp	Trp	Asp	Ser	Arg	Val	Lys	Lys	Ala	Ser	Ala	Ala	Met	625	630	635	640
Gln	Asp	Arg	Glu	Ser	Ala	Val	Asp	Ala	Leu	Tyr	Glu	Glu	Ile	Glu	Lys	645	650	655	
Asp	Leu	Ile	Leu	Ile	Gly	Ala	Thr	Ala	Ile	Glu	Asp	Lys	Leu	Gln	Asp	660	665	670	
Gly	Val	Pro	Glu	Ala	Ile	Ala	Arg	Leu	Ser	Glu	Ala	Asn	Ile	Lys	Ile	675	680	685	
Trp	Val	Leu	Thr	Gly	Asp	Lys	Thr	Glu	Thr	Ala	Ile	Asn	Ile	Ala	Tyr	690	695	700	
Ser	Cys	Arg	Leu	Leu	Thr	Asp	Glu	Thr	Lys	Glu	Ile	Val	Val	Val	Asp	705	710	715	720
Gly	Gln	Thr	Asp	Thr	Glu	Val	Glu	Val	Gln	Leu	Lys	Asp	Thr	Arg	Asn	725	730	735	
Thr	Phe	Glu	Gln	Ile	Leu	Ala	Leu	Pro	Ser	Pro	Leu	Gly	Gly	Lys	Pro	740	745	750	
Arg	Ile	Glu	Ile	Glu	Thr	Ile	His	Glu	Glu	Ser	Glu	Ala	Ile	Ser	Ser	755	760	765	

Ala Arg Ser Met Asp Arg Asn Ile Val Thr Pro Asp Leu Lys Ser Ala
 770 775 780

Glu Met Ala Glu His Glu Ser Gly Gly Val Ala Leu Val Ile Asn Gly
 785 790 795 800

Asp Ser Leu Ala Phe Ala Leu Gly Pro Arg Leu Glu Arg Thr Phe Leu
 805 810 815

Glu Val Ala Cys Met Cys Asn Ala Val Ile Cys Cys Arg Val Thr Pro
 820 825 830

Leu Gln Lys Ala Gln Val Val Asp Leu Val Lys Arg Asn Lys Lys Ala
 835 840 845

Val Thr Leu Ser Ile Gly Asp Gly Ala Asn Asp Val Ser Met Ile Lys
 850 855 860

Thr Ala His Ile Gly Val Gly Ile Ser Gly Gln Glu Gly Met Gln Ala
 865 870 875 880

Val Leu Ala Ser Asp Tyr Ser Ile Gly Gln Phe Lys Tyr Leu Glu Arg
 885 890 895

Leu Leu Leu Val His Gly Arg Trp Ser Tyr Ile Arg Met Ala Lys Phe
 900 905 910

Leu Arg Tyr Phe Phe Tyr Lys Asn Phe Ala Phe Thr Leu Thr Asn Phe
 915 920 925

Trp Tyr Ser Phe Phe Cys Gly Tyr Ser Ala Gln Thr Val Phe Asp Ala
 930 935 940

Val Leu Ile Ala Cys Tyr Asn Leu Phe Phe Thr Ala Leu Pro Val Leu
 945 950 955 960

Ala Met Gly Ser Leu Asp Gln Asp Val Asp Asp His Tyr Ser Leu Arg
 965 970 975

Tyr Pro Lys Leu Tyr Leu Pro Gly Gln Phe Asn Leu Phe Phe Asn Met
 980 985 990

Arg Ile Phe Ile Tyr Ser Val Leu His Gly Met Phe Ser Ser Leu Val
 995 1000 1005

Ile Phe Phe Ile Pro Tyr Gly Ala Phe Tyr Asn Ala Ala Ala Ala

1010		1015		1020
Ser Gly	Lys Asp Leu Asp	Asp Tyr Ser Ala Leu	Ala Phe Thr Thr	
1025		1030	1035	
Phe Thr	Ala Leu Val Val Val	Val Thr Gly Gln Ile	Ala Phe Asp	
1040		1045	1050	
Thr Ser	Tyr Trp Thr Ala	Ile Ser His Phe Val	Ile Trp Gly Ser	
1055		1060	1065	
Leu Val	Leu Tyr Phe Leu	Val Cys Phe Leu Leu	Tyr Glu Trp Leu	
1070		1075	1080	
Pro Val	Ser Trp Ile Val	Lys Thr Ser Ser Ser	Ile Ser Tyr Gly	
1085		1090	1095	
Val Ala	Phe Arg Thr Met	Val Thr Pro His Phe	Trp Phe Ser Ile	
1100		1105	1110	
Leu Met	Val Ser Val Val	Leu Leu Leu Pro Val	Met Leu Asn Arg	
1115		1120	1125	
Phe Phe	Trp Leu Asp Thr	His Pro Ser Phe Ala	Asp Arg Leu Arg	
1130		1135	1140	
Ile Arg	Lys Lys Met Gly	Lys Lys Pro Ser Ala	Lys Asp Asp Lys	
1145		1150	1155	
Lys Thr	Ala Phe Lys Arg	Thr Ala Ala Thr Arg	Arg Ser Val Arg	
1160		1165	1170	
Gly Ser	Leu Arg Ser Gly	Tyr Ala Phe Ser His	Ser Gln Gly Phe	
1175		1180	1185	
Gly Glu	Leu Ile Leu Lys	Gly Lys Leu Phe Lys	Asn Val Glu Asn	
1190		1195	1200	
Leu Arg	Gly Lys Asn Asn	Ser Asn Ala Lys Ile	His Pro Thr Ser	
1205		1210	1215	
Asp Asp	Leu Gln Pro Met	Leu Ile Ser Ser Val	Pro Asp Asp Ser	
1220		1225	1230	
Gln Gly	Ala Ser Ser Ile	Asn Ala Met His Leu	Pro Met Gly Thr	

1235	1240	1245
Arg Pro Gln Asn Val Pro His Thr Leu Asn Val Asn Thr Asp Asp		
1250	1255	1260
Trp Ser Gln Ser Ser Asp Phe Arg Pro Ala Tyr Ala Lys Glu Pro		
1265	1270	1275
Ser Pro Leu Gln Gly Thr Val Ile Arg Gly Asp Gly Arg Ser His		
1280	1285	1290
Arg Asn His Val Tyr Ser Arg Glu Thr Gln Val Glu Glu Gln Pro		
1295	1300	1305
Asp Val Ile Thr Arg Leu		
1310		
<210> 9		
<211> 1251		
<212> PRT		
<213> Homo sapiens		
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Met Ser Thr Glu Arg Asp Ser Glu Thr Thr Phe Asp Glu Phe Ser Gln		
1	5	10
Pro Asn Asp Glu Val Val Pro Tyr Ser Asp Asp Glu Thr Glu Asp Glu		
20	25	30
Leu Asp Asp Gln Gly Ser Ala Val Glu Pro Glu Gln Asn Arg Asn Arg		
35	40	45
Val Asn Arg Arg Glu Ala Glu Glu Asn Arg Glu Pro Phe Arg Lys Glu		
50	55	60
Cys Thr Trp Gln Val Lys Ala Asn Asp Arg Lys Tyr His Glu Gln Pro		
65	70	75
His Phe Met Met Asn Thr Lys Phe Leu Cys Ile Lys Glu Ser Lys Tyr		
85	90	95
Ala Asn Asn Ala Ile Lys Thr Tyr Lys Tyr Asn Ala Phe Thr Phe Ile		
100	105	110
Pro Met Asn Leu Phe Glu Gln Phe Lys Arg Ala Asn Leu Tyr Phe Leu		
115	120	125

Ala	Leu	Leu	Ile	Leu	Gln	Ala	Val	Pro	Gln	Ile	Ser	Thr	Leu	Ala	Trp
130						135					140				
Tyr	Thr	Thr	Leu	Val	Pro	Leu	Leu	Val	Val	Leu	Gly	Val	Thr	Ala	Ile
145					150					155					160
Lys	Asp	Leu	Val	Asp	Asp	Val	Ala	Arg	His	Lys	Met	Asp	Lys	Glu	Ile
				165					170					175	
Met	Asn	Arg	Thr	Cys	Glu	Val	Ile	Lys	Asp	Gly	Arg	Phe	Lys	Val	Ala
			180					185						190	
Lys	Trp	Lys	Glu	Ile	Gln	Val	Gly	Asp	Val	Ile	Arg	Leu	Lys	Lys	Asn
		195					200					205			
Asp	Phe	Val	Pro	Ala	Asp	Ile	Leu	Leu	Leu	Ser	Ser	Ser	Glu	Pro	Asn
210						215					220				
Ser	Leu	Cys	Tyr	Val	Glu	Thr	Ala	Glu	Leu	Asp	Gly	Glu	Thr	Asn	Leu
225					230					235					240
Lys	Phe	Lys	Met	Ser	Ile	Glu	Ile	Thr	Asp	Cys	Tyr	Leu	Gln	Arg	Arg
				245					250					255	
Glu	Asp	Thr	Leu	Ala	Thr	Phe	Asp	Gly	Phe	Ile	Glu	Cys	Glu	Glu	Pro
			260					265					270		
Asn	Asn	Arg	Leu	Asp	Lys	Phe	Thr	Gly	Thr	Leu	Phe	Trp	Arg	Asn	Thr
		275					280					285			
Ser	Phe	Pro	Leu	Asp	Ala	Asp	Lys	Ile	Leu	Leu	Arg	Gly	Cys	Val	Ile
290						295					300				
Arg	Asn	Thr	Asp	Phe	Cys	Tyr	Gly	Val	Val	Val	Glu	Ala	Gly	Ala	Asp
305					310					315					320
Thr	Lys	Leu	Met	Lys	Asn	Ser	Gly	Lys	Thr	Pro	Arg	Thr	Lys	Ile	Asp
				325					330					335	
Tyr	Leu	Met	Asn	Tyr	Met	Val	Tyr	Thr	Ile	Phe	Val	Val	Leu	Ile	Leu
			340					345					350		
Leu	Ser	Ala	Gly	Leu	Ala	Ile	Gly	His	Ala	Tyr	Asn	Glu	Ala	Gln	Val
		355					360					365			

Gly Asn Ser Ser Trp Tyr Leu Tyr Asp Gly Glu Asp Asp Thr Pro Ser
 370 375 380

Tyr Arg Gly Phe Leu Ile Phe Trp Gly Tyr Ile Ile Val Leu Asn Thr
 385 390 395 400

Met Val Pro Ile Ser Leu Tyr Val Ser Val Glu Val Ile Arg Leu Gly
 405 410 415

Gln Ser His Phe Ile Asn Trp Asp Leu Gln Met Tyr Tyr Ala Lys Asp
 420 425 430

Thr Pro Ala Lys Ala Arg Thr Thr Thr Leu Asn Glu Gln Leu Gly Gln
 435 440 445

Ile His Tyr Ile Phe Ser Asp Lys Thr Gly Thr Lys Thr Gln Asn Ile
 450 455 460

Met Thr Phe Lys Lys Cys Cys Ile Asn Gly Gln Ile Tyr Gly Asp His
 465 470 475 480

His Asp Ala Ser Gln His Asn His Asn Lys Ile Glu Gln Val Asp Phe
 485 490 495

Ser Trp Asn Thr Tyr Ala Asp Gly Lys Leu Ala Phe Tyr Asp His Tyr
 500 505 510

Leu Ile Glu Gln Ile Gln Ser Gly Lys Glu Pro Glu Val Glu Arg Gln
 515 520 525

Phe Phe Phe Leu Leu Ala Val Cys His Thr Val Met Val Asp Arg Thr
 530 535 540

Asp Gly Gln Leu Asn Gln Ala Ala Ser Pro Asp Glu Gly Ala Leu Val
 545 550 555 560

Asn Ala Ala Arg Asn Phe Gly Phe Ala Phe Leu Ala Arg Thr Gln Asn
 565 570 575

Thr Ile Thr Ile Ser Glu Leu Gly Thr Glu Arg Thr Tyr Asn Val Leu
 580 585 590

Ala Ile Leu Asp Phe Asn Ser Asp Arg Lys Arg Met Ser Ile Ile Val
 595 600 605

Arg Thr Pro Glu Gly Asn Ile Lys Leu Tyr Cys Lys Gly Ala Asp Thr

610	615	620															
Val	Ile	Tyr	Glu	Arg	Leu	His	Arg	Met	Asn	Pro	Thr	Lys	Gln	Glu	Thr		
625					630					635					640		
Gln	Asp	Ala	Leu	Asp	Ile	Phe	Ala	Asn	Glu	Thr	Leu	Arg	Thr	Leu	Cys		
				645					650						655		
Leu	Cys	Tyr	Lys	Glu	Ile	Glu	Glu	Lys	Glu	Phe	Thr	Glu	Trp	Asn	Lys		
			660					665					670				
Lys	Phe	Met	Ala	Ala	Ser	Val	Ala	Ser	Thr	Asn	Arg	Asp	Glu	Ala	Leu		
		675					680					685					
Asp	Lys	Val	Tyr	Glu	Glu	Ile	Glu	Lys	Asp	Leu	Ile	Leu	Leu	Gly	Ala		
	690					695					700						
Thr	Ala	Ile	Glu	Asp	Lys	Leu	Gln	Asp	Gly	Val	Pro	Glu	Thr	Ile	Ser		
705					710					715					720		
Lys	Leu	Ala	Lys	Ala	Asp	Ile	Lys	Ile	Trp	Val	Leu	Thr	Gly	Asp	Lys		
			725						730					735			
Lys	Glu	Thr	Ala	Glu	Asn	Ile	Gly	Glu	Ala	Cys	Glu	Leu	Leu	Thr	Glu		
			740					745					750				
Asp	Thr	Thr	Ile	Cys	Tyr	Gly	Glu	Asp	Ile	Asn	Ser	Leu	Leu	His	Ala		
	755						760					765					
Arg	Met	Glu	Asn	Gln	Arg	Asn	Arg	Gly	Gly	Val	Tyr	Ala	Lys	Ala	Pro		
	770					775					780						
Pro	Val	Gln	Glu	Ser	Phe	Phe	Pro	Phe	Phe	Pro	Pro	Gly	Gly	Arg	Ala		
785					790					795					800		
Leu	Ile	Ile	Thr	Gly	Ser	Trp	Leu	Asn	Glu	Ile	Leu	Leu	Glu	Lys	Lys		
				805					810					815			
Thr	Lys	Arg	Asn	Lys	Ile	Leu	Lys	Leu	Lys	Phe	Pro	Arg	Thr	Glu	Glu		
			820					825					830				
Glu	Arg	Arg	Met	Arg	Thr	Gln	Ser	Lys	Arg	Arg	Leu	Glu	Ala	Lys	Lys		
	835						840					845					
Glu	Gln	Arg	Gln	Lys	Asn	Phe	Val	Asp	Leu	Ala	Cys	Glu	Cys	Ser	Ala		
850						855					860						

Val Ile Cys Cys Cys Arg Val Thr Pro Lys Gln Lys Ala Met Val Val
865 870 875 880

Asp Leu Val Lys Arg Lys Lys Ala Ile Thr Leu Ala Ile Gly Asp Gly
885 890 895

Ala Asn Asp Val Asn Met Ile Lys Thr Ala His Ile Gly Val Gly Ile
900 905 910

Ser Gly Gln Glu Gly Met Cys Ala Val Met Ser Ser Asp Tyr Ser Phe
915 920 925

Ala Gln Phe Arg Tyr Leu Gln Arg Leu Leu Leu Val His Gly Arg Trp
930 935 940

Ser Ile Arg Met Cys Lys Phe Leu Arg Tyr Phe Phe Tyr Lys Asn Phe
945 950 955 960

Ala Phe Thr Leu Val His Phe Trp Tyr Ser Phe Phe Asn Gly Tyr Ser
965 970 975

Ala Gln Thr Ala Tyr Glu Asp Trp Phe Ile Thr Leu Tyr Asn Val Leu
980 985 990

Tyr Thr Ser Leu Pro Val Leu Leu Met Gly Leu Leu Asp Gln Asp Val
995 1000 1005

Ser Asp Lys Leu Ser Leu Arg Phe Pro Gly Leu Tyr Ile Val Gly
1010 1015 1020

Gln Arg Asp Leu Leu Phe Asn Tyr Lys Arg Phe Phe Val Ser Leu
1025 1030 1035

Leu His Gly Val Leu Thr Ser Met Leu Phe Phe Ile Pro Leu Gly
1040 1045 1050

Ala Tyr Leu Gln Thr Val Gly Gln Asp Gly Glu Ala Pro Ser Asp
1055 1060 1065

Tyr Gln Ser Phe Ala Val Thr Ile Ala Ser Ala Leu Val Ile Thr
1070 1075 1080

Val Asn Phe Gln Ile Gly Leu Asp Thr Ser Tyr Trp Thr Phe Val
1085 1090 1095

Asn Ala Phe Ser Ile Phe Gly Ser Ile Ala Leu Tyr Phe Gly Ile
 1100 1105 1110

Met Phe Asp Phe His Ser Ala Gly Ile His Val Leu Phe Pro Ser
 1115 1120 1125

Ala Phe Gln Phe Thr Gly Thr Ala Ser Asn Ala Leu Gln Pro Tyr
 1130 1135 1140

Ile Trp Leu Thr Ile Ile Leu Thr Val Ala Val Cys Leu Leu Pro
 1145 1150 1155

Val Pro Ala Ile Arg Phe Leu Ser Met Thr Ile Trp Pro Ser Glu
 1160 1165 1170

Ser Asp Lys Ile Gln Lys His Arg Lys Arg Leu Lys Ala Glu Glu
 1175 1180 1185

Gln Trp Gln Arg Arg Gln Gln Val Phe Arg Arg Gly Val Ser Thr
 1190 1195 1200

Arg Arg Ser Ala Tyr Ala Phe Ser His Gln Arg Gly Tyr Ala Asp
 1205 1210 1215

Leu Ile Ser Ser Gly Arg Ser Ile Arg Lys Lys Arg Ser Pro Leu
 1220 1225 1230

Asp Ala Ile Val Ala Asp Gly Thr Ala Glu Tyr Arg Arg Tyr Thr
 1235 1240 1245

Gly Asp Ser
 1250

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 <212> PRT
 <213> Homo sapiens

<400> 10

Met Asp Thr Leu Arg Ala Val Pro Leu Phe Ser Ile Ser Gly Leu Phe
 1 5 10 15

Ser Phe Pro Tyr Arg Val Ser His Gly Ile Ala Gly Ile Leu Leu Gly
 20 25 30

Glu Met Ala Val Cys Ala Lys Lys Arg Pro Pro Glu Glu Glu Arg Arg

35	40	45															
Ala	Arg	Ala	Asn	Asp	Arg	Glu	Tyr	Asn	Glu	Lys	Phe	Gln	Tyr	Ala	Ser		
50						55					60						
Asn	Cys	Ile	Lys	Thr	Ser	Lys	Tyr	Asn	Ala	Phe	Thr	Phe	Ile	Pro	Met		
65					70					75					80		
Asn	Leu	Pro	Glu	Ser	Gln	Phe	Lys	Phe	Ala	Ala	Asn	Leu	Tyr	Phe	Leu		
				85					90					95			
Ala	Leu	Leu	Ile	Leu	Gln	Ala	Val	Pro	Gln	Ile	Ser	Thr	Leu	Ala	Trp		
			100					105						110			
Tyr	Thr	Thr	Leu	Val	Pro	Leu	Leu	Val	Val	Leu	Thr	Ile	Thr	Ala	Val		
		115					120					125					
Lys	Asp	Ala	Ala	Thr	Asp	Asp	Tyr	Phe	Arg	His	Lys	Ser	Asp	Asn	Gln		
130						135					140						
Val	Asn	Asn	Arg	Gln	Ser	Gln	Val	Leu	Ile	Asn	Gly	Ile	Leu	Gln	Gln		
145					150					155					160		
Glu	Gln	Asn	Met	Val	Cys	Val	Gly	Asp	Ile	Ile	Lys	Leu	Glu	Asn	Asn		
				165					170						175		
Gln	Phe	Val	Ala	Ala	Asp	Leu	Leu	Leu	Leu	Ser	Ser	Ser	Glu	Pro	His		
			180					185					190				
Gly	Leu	Cys	Tyr	Ile	Glu	Thr	Ala	Glu	Leu	Asp	Gly	Glu	Thr	Asn	Met		
		195					200					205					
Lys	Val	Arg	Gln	Ala	Ile	Pro	Val	Thr	Ser	Glu	Leu	Gly	Asp	Ile	Ser		
	210					215					220						
Lys	Leu	Ala	Glu	Lys	Phe	Asp	Gly	Glu	Val	Ile	Cys	Glu	Pro	Pro	Asn		
225					230					235					240		
Asn	Lys	Leu	Asp	Lys	Phe	Ser	Gly	Thr	Leu	Tyr	Gln	Lys	Glu	Asn	Lys		
				245					250					255			
Phe	Pro	Leu	Ser	Asn	Gln	Asn	Met	Leu	Leu	Arg	Gly	Cys	Val	Leu	Arg		
			260					265					270				
Asn	Thr	Glu	Trp	Cys	Phe	Gly	Leu	Val	Ile	Phe	Ala	Gly	Pro	Asp	Thr		
	275						280					285					

Lys Leu Met Gln Asn Ser Gly Arg Thr Lys Phe Lys Arg Thr Ser Ile
 290 295 300

Leu Arg Leu Met Asn Thr Leu Val Leu Trp Ile Phe Gly Phe Leu Val
 305 310 315 320

Cys Met Gly Val Ile Leu Ala Ile Gly Asn Ala Ile Trp Glu His Glu
 325 330 335

Val Gly Met Arg Phe Gln Val Tyr Leu Pro Trp Asp Glu Ala Val Asp
 340 345 350

Ser Ala Phe Phe Ser Phe Leu Ser Phe Trp Ser Tyr Ile Ile Ile Leu
 355 360 365

Asn Thr Val Val Pro Ile Ser Leu Tyr Val Ser Val Glu Val Ile Arg
 370 375 380

Leu Gly His Ser Tyr Phe Ile Asn Trp Asp Lys Lys Met Phe Cys Met
 385 390 395 400

Lys Lys Arg Thr Pro Ala Glu Ala Arg Thr Thr Thr Leu Asn Glu Gln
 405 410 415

Leu Gly Gln Ile His Tyr Ile Phe Ser Asp Lys Leu Thr Gln Asn Ile
 420 425 430

Met Val Phe Asn Lys Cys Ser Ile Asn Gly His Ser Tyr Gly Asp Val
 435 440 445

Phe Asp Val Leu Gly His Lys Ala Glu Leu Gly Glu Arg Pro Glu Pro
 450 455 460

Val Asp Phe Ser Phe Asn Pro Leu Ala Asp Lys Lys Phe Leu Phe Trp
 465 470 475 480

Asp Pro Leu Leu Glu Ala Val Lys Ile Gly Asp Pro His Thr His Glu
 485 490 495

Phe Phe Arg Leu Leu Ser Leu Cys His Thr Val Met Val Arg Glu Ser
 500 505 510

Pro Arg Glu Pro Glu Arg Pro Asp Gln Leu Leu Tyr Gln Ala Ala Ser
 515 520 525

Pro Glu Gly Ala Leu Val Thr Ala Ala Arg Asn Phe Gly Phe Val Phe
 530 535 540

Arg Thr Pro Lys Thr Ile Thr Val His Glu Met Gly Thr Ala Ile Thr
 545 550 555 560

Tyr Gln Leu Leu Ala Ala Ile Leu Asp Phe Asn Asn Ile Arg Lys Arg
 565 570 575

Lys Arg Met Ser Val Ile Val Arg Asn Pro Gly Glu Gly Lys Ile Arg
 580 585 590

Leu Tyr Cys Lys Gly Ala Asp Thr Ile Leu Asp Arg Leu His Ser Thr
 595 600 605

Gln Glu Leu Leu Asn Thr Thr Met Asp His Leu Asn Glu Tyr Ser Ser
 610 615 620

Ala Gly Glu Gly Leu Arg Leu Val Leu Ala Tyr Lys Asp Lys Asp Glu
 625 630 635 640

Glu Tyr Tyr Glu Glu Trp Ala Glu Arg Arg Leu Gln Ala Ser Leu Ala
 645 650 655

Gln Asp Ser Arg Glu Asp Arg Leu Ala Ser Ile Tyr Glu Glu Val Glu
 660 665 670

Asn Asn Met Met Leu Leu Gly Ala Thr Ala Ile Glu Gly Lys Leu Gln
 675 680 685

Gln Gly Val Pro Glu Thr Ile Ala Leu Leu Thr Leu Ala Asn Ile Lys
 690 695 700

Ile Trp Val Leu Thr Gly Asp Lys Gln Glu Thr Ala Val Asn Ile Gly
 705 710 715 720

Tyr Ser Cys Lys Met Leu Thr Asp Asp Met Thr Glu Val Phe Ile Val
 725 730 735

Thr Gly His Thr Val Leu Glu Val Arg Glu Glu Leu Arg Lys Ala Arg
 740 745 750

Glu Lys Met Met Asp Ser Ser Arg Ser Val Gly Asn Gly Phe Thr Tyr
 755 760 765

Gln Asp Lys Leu Ser Ser Ser Lys Leu Thr Ser Val Leu Glu Ala Val
 770 775 780

Ala Gly Glu Tyr Ala Val Ile Asn Gly His Ser Leu Ala His Ala Leu
 785 790 795 800

Glu Ala Asp Met Glu Leu Glu Phe Leu Glu Thr Ala Cys Ala Cys Lys
 805 810 815

Ala Val Ile Cys Cys Arg Val Thr Pro Pro Leu Gln Lys Ala Cys Val
 820 825 830

Val Glu Leu Val Lys Lys Tyr Lys Lys Ala Val Thr Leu Ala Ile Gly
 835 840 845

Asp Gly Ala Asn Asp Val Ser Met Ile Lys Lys Thr Ala His His Ile
 850 855 860

Gly Val Gly Ile Ser Gly Gln Glu Gly Ile Gln Ala Val Leu Ala Ser
 865 870 875 880

Asp Tyr Ser Phe Phe Ser Gln Phe Lys Phe Leu Gln Arg Leu Leu Leu
 885 890 895

Val His Gly Arg Trp Ser Tyr Leu Arg Met Cys Lys Phe Leu Cys Tyr
 900 905 910

Phe Phe Tyr Lys Asn Phe Ala Phe Thr Met Val His Phe Trp Phe Gly
 915 920 925

Phe Phe Cys Cys Phe Ser Ala Gln Thr Phe Ile Thr Leu Tyr Asn Ile
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Val Tyr Thr Ser Leu Pro Val Leu Ala Met Gly Val Phe Asp Gln Asp
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Val Pro Glu Gln Arg Ser Met Glu Tyr Pro Lys Leu Tyr Glu Pro Gly
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Gln Leu Asn Leu Leu Phe Asn Lys Arg Glu Phe Phe Ile Cys Ile Ala
 980 985 990

Gln Cys Ile Tyr Thr Ser Val Leu Met Phe Phe Ile Phe Tyr Gly Val
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Gln Ser Phe Ala Val Ile Val Ala Thr Ser Leu Val Ile Val Val				
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Ser Val Gln Ile Gly Leu Asp Thr Gly Tyr Trp Thr Ile Asn His				
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Phe Phe Ile Gln Gly Ser Leu Ala Val Tyr Phe Ala Ile Leu Phe				
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Ala Met His Ser Asn Gly Leu Phe Asp Met Phe Pro Asn Gln Phe				
1070		1075		1080
Arg Phe Val Gly Asn Ala Gln Asn Thr Leu Ala Gln Pro Thr Val				
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Trp Leu Thr Ile Val Leu Thr Thr Val Val Cys Ile Met Pro Val				
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Val Ala Phe Arg Phe Leu Arg Leu Asn Leu Lys Pro Asp Leu Ser				
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Asp Thr Val Arg Tyr Thr Gln Leu Val Arg Lys Lys Gln Lys Ala				
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Gln His Arg Cys Met Arg Arg Val Gly Arg Thr Gly Ser Arg Arg				
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Ser Gly Tyr Ala Phe Ser His Ser His Gln Glu Gly Phe Gly Glu				
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Leu Ile Ile Ser Gly Lys Asn Met Arg Leu Ser Ser Leu Ala Leu				
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Ser Ser Phe Thr Thr Arg Ser Ser Ser Ser Trp Ile Glu Ser Leu				
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Lys Pro Leu Lys Gly				
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His Arg Ala Asn Gly Ser Thr Thr Ser Ala Ala Leu Asp Ala Arg Gly
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Leu Pro Pro Pro Ala Ser Pro Ala Pro Thr Pro Arg Ser Thr Ala Gly
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Asp Val Thr Gln Glu Gly Ser Asp Val Thr Gln Glu Gly Ser Gly Asp
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Val Thr Gln Glu Gly Ser Gly Pro Ala Gly Ile Arg Gly Val Glu Lys
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Ile Pro Gly Ser Ser Asp Asp Val Arg Leu Pro Pro Ser Pro Pro Ser
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Glu Phe Ala Ala Gln Pro Gly Gly Ser Gly Cys Pro Arg Gln Asp Thr
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Gly Ser Pro Thr Ser Met Gly Ser Leu Gly Gln Arg Glu Asp Leu Gln
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 260 265 270
 Ile Ser Thr Leu Pro Trp Phe Ser Leu Ser Thr Pro Met Val Arg Asn
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 Thr Asp Thr Cys Tyr Gly Leu Val Ile Tyr Ala Gly Phe Asp Thr Lys
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 Phe Lys Asp His His Tyr Tyr Leu Ser Gly Val His Gly Ser Ser Val
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 Ala Ala Glu Ser Phe Phe Val Phe Trp Ser Phe Leu Ile Leu Leu Ser
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 Val Thr Ile Pro Met Ser Met Phe Leu Ser Glu Phe Ile Tyr Leu Gly
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 Asn Ser Val Phe Ile Asp Trp Asp Val Gln Met Tyr Tyr Lys Pro Gln
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 Asp Val Pro Ala Lys Ala Arg Ser Thr Ser Leu Asn Asp His Leu Gly
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 Gln Val Glu Tyr Ile Phe Ser Asp Lys Thr Gly Thr Leu Thr Gln Asn
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 Asn Ile Leu Thr Phe Asn Lys Cys Cys Ile Ser Gly Arg Val Tyr Gly
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 Arg Pro Ser Glu Ala Thr Thr Arg Pro Lys Glu Asn Pro Tyr Leu Trp

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Leu Val Lys Thr Asn Gly Asp Glu Ala Val Arg Glu Phe Trp Arg Leu	500		505		510	
Leu Ala Ile Cys His Thr Val Met Val Arg Glu Ser Pro Arg Glu Arg	515		520		525	
Pro Asp Gln Leu Leu Tyr Gln Ala Ala Ser Pro Asp Glu Gly Leu Val	530		535		540	
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Ala Ile Met Asp Phe Asn Ser Thr Arg Lys Arg Met Ser Val Leu Val	580		585		590	
Arg Lys Pro Glu Gly Ala Ile Cys Leu Tyr Thr Lys Gly Ala Asp Thr	595		600		605	
Val Ile Phe Glu Arg Leu His Arg Arg Gly Ala Met Glu Phe Ala Ile	610		615		620	
Glu Glu Ala Leu Ala Gly Gln Glu Glu Glu Glu Ala Gly Glu Glu Thr	625		630		635	640
Val Arg Arg Asn Gly Arg Leu Gln Val Pro Gly Met Ala Met Tyr Ser	645		650		655	
Glu Ala Gln Glu Thr Leu Arg Thr Leu Cys Leu Ala Tyr Arg Glu Val	660		665		670	
Ala Glu Asp Ile Tyr Glu Asp Trp Gln Gln Arg His Gln Glu Ala Ser	675		680		685	
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Arg Lys Glu Pro Arg Ala Leu Ala Gln Asn Val Met Asp Glu Ala Trp
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Gln Glu Leu Gly Gln Ser Arg Arg Asp Phe Leu Tyr Ala Arg Arg Leu
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Ser Leu Leu Cys Arg Arg Gly Leu Pro Leu Ala Ala Pro Pro Ala Pro
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Pro Ala Gln Asp Ser Arg Ala Arg Arg Ser Ser Glu Val Leu Gln Glu
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Arg Val Thr Pro Lys Gln Lys Ala Leu Ile Val Ala Leu Val Lys Lys
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Met Ile Lys Thr Ala Asp Val Gly Val Gly Leu Ala Gly Gln Glu Gly
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			980					985					990		
Cys	Lys	Phe	Leu	Arg	Tyr	Phe	Phe	Tyr	Lys	Ser	Met	Ala	Ser	Met	Met
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Val	Gln	Val	Trp	Phe	Ala	Cys	Tyr	Asn	Asn	Gly	Phe	Thr	Gly	Gln	
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Ser	Ala	Glu	Gln	Ser	Leu	Glu	Lys	Pro	Glu	Leu	Tyr	Val	Val	Gly	
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Ala	His	Gly	Val	Thr	Thr	Ser	Leu	Trp	Asn	Phe	Phe	Met	Thr	Leu	
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Trp	Ile	Ser	Arg	Asp	Thr	Ala	Ser	Gly	Pro	Ala	Ser	Phe	Ser	Asp	
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Thr Thr Gln Ser Phe Trp Leu Phe Arg Val Ser Pro Thr Thr Phe
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Pro Phe Leu Tyr Ala Asp Leu Ser Val Met Ser Ser Pro Ser Ile
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Leu Leu Val Val Leu Leu Ser Val Ser Ile Asn Thr Phe Pro Val
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Lys Glu Glu Lys Val Glu Glu Gly Pro Ser Glu Glu Ile Phe Thr
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Met Glu Pro Leu Pro His Val His Arg Glu Ser Arg Ala Arg Arg
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Ala	Leu	Ser	Val	Thr	Ser	Glu	Leu	Gly	Ala	Asp	Ile	Ser	Arg	Leu	Ala	50	55	60	
Gly	Phe	Asp	Gly	Ile	Val	Val	Cys	Glu	Val	Pro	Asn	Asn	Lys	Leu	Asp	65	70	75	80
Lys	Phe	Met	Gly	Ile	Leu	Ser	Trp	Lys	Asp	Ser	Lys	His	Ser	Leu	Asn	85	90	95	
Asn	Glu	Lys	Ile	Ile	Leu	Arg	Gly	Cys	Ile	Leu	Arg	Asn	Thr	Ser	Trp	100	105	110	
Cys	Phe	Gly	Met	Val	Ile	Phe	Ala	Gly	Pro	Asp	Thr	Lys	Leu	Met	Gln	115	120	125	
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Thr	Leu	Val	Leu	Trp	Ile	Phe	Gly	Leu	Ile	Cys	Leu	Gly	Ile	Ile	Leu	145	150	155	160
Ala	Ile	Gly	Asn	Asn	Ser	Ile	Trp	Glu	Ser	Gln	Thr	Gly	Asp	Gln	Phe	165	170	175	
Arg	Thr	Phe	Leu	Phe	Trp	Asn	Glu	Gly	Glu	Lys	Ser	Ser	Val	Phe	Ser	180	185	190	
Gly	Phe	Leu	Thr	Phe	Trp	Ser	Tyr	Ile	Ile	Leu	Asn	Thr	Val	Val	Pro	195	200	205	
Ile	Ser	Leu	Tyr	Val	Ser	Val	Glu	Val	Ile	Arg	Leu	Gly	His	Ser	Tyr	210	215	220	
Phe	Ile	Asn	Trp	Asp	Arg	Lys	Met	Tyr	Tyr	Ser	Arg	Lys	Ala	Ile	Pro	225	230	235	240
Ala	Val	Ala	Arg	Thr	Thr	Thr	Leu	Asn	Glu	Glu	Leu	Gly	Gln	Ile	Glu	245	250	255	
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Asp Leu Asp Gln Lys Thr Glu Ile Thr Gln Glu Lys Glu Pro Val Asp
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Phe Ser Val Lys Ser Ser Gln Ala Asp Arg Glu Phe Gln Phe Phe Asp
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His His Leu Met Glu Ser Ser Ile Lys Met Gly Asp Pro Lys Val His
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Val Ile Val Arg Asn Pro Glu Gly Gln Ile Lys Leu Tyr Ser Lys Gly
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Arg Thr Leu Ala Ile Ala Tyr Arg Asp Leu Asp Asp Lys Tyr Phe Lys
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Glu Trp His Lys Met Leu Glu Asp Ala Asn Ala Ala Thr Glu Glu Arg
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Asp Leu Leu Glu Leu Ala Cys Met Cys Lys Thr Val Lys Cys Cys Arg
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Val Thr Pro Leu Gln Lys Ala Gln Val Val Glu Leu Val Lys Lys Tyr
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Arg Asn Ala Val Thr Leu Ala Ile Gly Asp Gly Ala Asn Asp Val Ser
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Met Ile Lys Ser Ala His Ile Gly Val Gly Ile Ser Gly Gln Glu Gly
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Cys Lys Phe Leu Cys Tyr Phe Phe Tyr Lys Asn Phe Ala Phe Thr Leu
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Val His Phe Trp Phe Gly Phe Phe Cys Gly Phe Ser Ala Gln Thr Val

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Val	Asp	Cys	Pro	Gln	Leu	Tyr	Lys	Pro	Gly	Gln	Leu	Asn	Leu	Leu	Phe		
				805					810					815			
Asn	Lys	Arg	Lys	Phe	Phe	Ile	Cys	Val	Leu	His	Gly	Ile	Tyr	Thr	Ser		
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Leu	Val	Leu	Phe	Phe	Ile	Pro	Tyr	Gly	Ala	Phe	Tyr	Asn	Val	Ala	Gly		
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Ser	Tyr	Trp	Phe	Ile	Asn	His	Val	Phe	Trp	Gly	Ser	Ile	Ala	Ile	Tyr		
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Phe	Ser	Ile	Leu	Phe	Thr	Met	His	Ser	Asn	Gly	Ile	Phe	Gly	Ile	Phe		
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Pro	Asn	Gln	Phe	Pro	Phe	Val	Gly	Asn	Ala	Arg	His	Ser	Leu	Thr	Gln		
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Lys	Cys	Ile	Trp	Leu	Val	Ile	Leu	Leu	Thr	Thr	Val	Ala	Ser	Val	Met		
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Pro	Val	Val	Ala	Phe	Arg	Phe	Leu	Lys	Val	Asp	Leu	Tyr	Pro	Thr	Leu		
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Pro	Ser	Ser	Arg	Arg	Pro	Pro	Thr	Arg	Ser	Ser	Ser	Arg	Arg	Ser	Gly		
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Tyr	Ala	Phe	His	Gln	Glu	Gly	Tyr	Gly	Glu	Leu	Ile	Thr	Ser	Gly	Lys		
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Asn Met	Arg Ala Lys Asn Pro	Pro Pro Thr Ser Gly	Leu Glu Lys
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Thr His	Tyr Asn Ser Thr Ser	Trp Ile Glu Asn Leu	Cys Lys Thr
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